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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,905	03/25/2004	Anson Horton	MS302711.1	7406

27195 7590 04/19/2007

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EXAMINER	
SMITH, CHENECA	
ART UNIT	**PAPER NUMBER**
2109	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/808,905	HORTON ET AL.	
	Examiner	Art Unit	
	Cheneca P. Smith	2109	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/02/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This action is responsive to the application filed on March 25, 2004.

Claims 1-22 have been examined.

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Objections

1. Claim 1 is objected to because of the following informalities: claim 1 recites, "a attribute debugging." It is suggested that the word system be added to recite " an attributed debugging system" to avoid antecedent basis issues. Appropriate correction is required.

2. Claim 20 is objected to because of the following informalities: claim 20 recites, "information associated debugging." It should recite " information associated with debugging." Appropriate correction is required.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 1 teaches an "attributed debugging". It is unclear if the instructions are necessarily in executable form, and therefore, the program has been reasonably interpreted as software, per se. In addition, Claim 1 fails to claim the "attributed debugging" as stored on an appropriate computer readable medium so as to be structurally and functionally interrelated to the medium and permit the function of the software to be realized. Because the software taught in claim 1 does not constitute a process, machine, manufacture or a composition of matter, it does not fall within a statutory category of invention and is consequently rejected as nonstatutory.

Claims 2-16 mirror the deficiencies of claim 1 and are also rejected as non-statutory.

Claim 17 teaches a method facilitating attributed debugging with a condition of employing an attribute to display debug information if the process has an attribute attached. No physical transformation takes place as a result of the recited steps. In addition, the result of the claim as a whole is a determination, which is simply a thought or computation within a processor. Thus, the claimed method fails to produce a tangible result and is consequently rejected as non-statutory.

Claims 18 and 19 mirrors the deficiencies of claim 17 and are also rejected as non-statutory.

Claim 20 teaches a "data packet". It is unclear if the instructions are necessarily in executable form, and therefore, the program has been reasonably interpreted as software, per se. In addition, Claim 20 fails to claim the "data packet" as stored on an appropriate computer readable medium so as to be structurally and functionally interrelated to the medium and permit the function of the software to be realized. Because the software taught in claim 20 does not constitute a process, machine, manufacture or a composition of matter, it does not fall within a statutory category of invention and is consequently rejected as non-statutory.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims **1, 7, 13-17, and 19-22** are rejected under 35 U.S.C. 102(e) as being anticipated by Bates et al (US Patent Application Publication 2003/0221185 A1).

As to claim 1, Bates teaches an attributed debugging system comprising a

debugger that facilitates debugging of a computer software application (see FIG.1: 123); and an expression evaluator (see FIG.1: 126) that employs an attribute associated with the computer software application to present debug information associated with the computer software application to a developer (see page 6, paragraph [0064]: at step 614, the debugger determines whether any attributes are set for the variable and paragraph [0065]: that is, the debugger determines whether a field is to be displayed).

As to claim 7, Bates teaches the system of claim 1, the attribute employed to determine at least one of how and whether a type or member is displayed (see page 6, paragraph [0064]: at step 614, the debugger determines whether any attributes are set for the variable and paragraph [0065]: that is, the debugger determines whether a field is to be displayed).

As to claim 13, Bates teaches the system of claim 1, the attribute employed to what is displayed for a class and/or field (see page 6, paragraph [0064]: at step 614, the debugger determines whether any attributes are set for the variable and paragraph [0065]: the debugger determines whether a field is to be displayed).

As to claim 14, Bates teaches the system of claim 13, an argument to the attribute comprising a string that is displayed in a value column for an instance of the class and/or field (see page 6, paragraph [0064]: if any attributes you set for the variable, then processing proceeds to step 616 where the appropriate attribute indicator is associated with the variable value).

As to claim 15, Bates teaches the system of claim 14, the argument associated with one of a field, a property and a method (see page 6, paragraph [0065]: the debugger determines whether the variable value is associated with a field of a record).

As to claim 16, Bates teaches the system of claim 11 further comprising an attribute cache directory (see FIG. 1: 150) that stores an attribute associated with the computer software application, expression evaluator employing the stored attribute to present debug information (see FIG. 1: 150 and page 3, paragraph [0033]: the database management system includes a database which may be a variety of repositories... the database provides one example of an external data source for external comments and other variable information).

As to claim 17, Bates teaches a method facilitating attributed debugging comprising: determining whether a process has an attribute attached (see page 6, paragraph [0064]: at step 614, the debugger determines whether any attributes are set for the variable); and employing the attribute to display debug information, if the process has an attribute attached (see paragraph [0065]: the debugger determines whether a field is to be displayed).

As to claim 19, Bates teaches a computer readable medium having stored thereon computer executable instructions for carrying out the method of claim 17 (see page 6, paragraph [0064]: at step 614, the debugger determines whether any attributes are set for the variable and paragraph [0065]: the debugger determines whether a field is to be displayed).

As to claim 20, Bates teaches a data packet transmitted between two or more computer components that facilitates debugging, the data packet comprising: an attribute, the attribute providing information associated debugging of a computer software application see page 4, paragraph [0047]: fields 312-322 are flags whose value describes an attribute of the variable).

As to claim 21, Bates teaches a computer readable medium storing computer executable components of an attributed debugging system comprising: a debugger component that facilitates debugging of a computer software application (see FIG.1: 123); and an expression evaluator (see FIG.1: 126) component that employs an attribute associated with the computer software application to present debug information associated with the computer software application to a developer (see page 6, paragraph [0064]: at step 614, the debugger determines whether any attributes are set for the variable).

As to claim 22, Bates teaches an attributed debugging system comprising: means for storing an attribute associated with a computer software application (see page 3, paragraph [0033]: the database management system includes a database which may be a variety of repositories... the database provides one example of an external data source for external comments and other variable information) and means for employing the stored attribute to present debug information associated with the computer software application to a developer see page 6, paragraph [0064]: at step 614, the debugger determines whether any attributes are set for the variable and paragraph [0065]: that is, the debugger determines whether a field is to be displayed).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims **5, 6, and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bates et al (US Patent Application Publication 2003/0221185 A1).

As to claim 5, Bates teaches the limitations of claim 1, but does not specifically teach that the expression evaluator invokes an overridden implementation of a ToString method to facilitate presentation of debug information. However, it is well known in the art that ToString methods return a string representation of an object and are used primarily for debugging. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include an overridden implementation of a ToString method for debugging for the convenience of displaying the output for a program and simplifying the process of debugging the program.

As to claim 6, Bates teaches the limitations of claim 1, but does not specifically teach that the expression evaluator employs a result of the overridden ToString method as a value to be displayed for an object, field and/or property. However, it is well known in the art that ToString methods return a string representation of an object and are used primarily for debugging. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include an overridden implementation of a ToString method for debugging and use the returned

result as a display value for the convenience of displaying the output for a program and simplifying the process of debugging the program.

As to claim 18, Bates teaches the limitations of claim 17, but does not specifically teach determining whether a ToString method has been overridden; and, invoking the overridden ToString method to facilitate debugging, if the ToString method has been overridden. However, it is well known in the art that ToString methods return a string representation of an object and are used primarily for debugging. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include an overridden implementation of a ToString method for debugging for the convenience of displaying the output for a program and simplifying the process of debugging the program.

8. Claims **2 - 4, and 8 - 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bates et al (US Patent Application Publication 2003/0221185 A1) in view of Dandoy (US Patent Application Publication 2004/0230954 A1).

As to claim 2, Bates teaches the limitations of claim 1, but does not specifically teach that the expression evaluator evaluates an expression associated with a particular programming language. However, in an analogous art, Dandoy teaches a system for debugging a software application that displays the contents and properties of objects and determines what events are emitted by objects (see paragraph [0046]). It would have been obvious to one having ordinary skill in the art to combine the teachings of Bates and Dandoy because the systems and methods of Dandoy's invention can be

configured to debug software that was created with other programming languages besides Java or different variants of Java (see page 6, paragraph [0048]).

As to claim 3, Bates teaches a debugger and an expression evaluator, but does not specifically teach the programming language comprising at least one of C#, J# and Visual Basic.Net. However, in an analogous art, Dandoy teaches a system for debugging a software application that displays the contents and properties of objects and determines what events are emitted by objects (see paragraph [0046]). It would have been obvious to one having ordinary skill in the art to combine the teachings of Bates and Dandoy because the systems and methods of Dandoy's invention can be configured to debug software that was created with other programming languages, including Java, HTML, C#, C++, and C (see page 6, paragraphs [0048] and [0049]).

As to claim 4, Bates teaches a debugger and an expression evaluator, but does not specifically teach a plurality of expression evaluators, each expression evaluator associated with a particular programming language. However, in an analogous art, Dandoy teaches a system for debugging a software application that displays the contents and properties of objects and determines what events are emitted by objects (see paragraph [0046]). It would have been obvious to one having ordinary skill in the art to combine the teachings of Bates and Dandoy because the systems and methods of Dandoy's invention can be configured to debug software that was created with other programming languages, including Java, HTML, C#, C++, and C (see page 6, paragraphs [0048] and [0049]).

As to claim 8, Bates teaches the limitations of claim 7, but does not specifically teach the attribute employing an enumeration. However in an analogous art, Dandoy teaches how the debug agent is configured to collect execution data relating to the graphical user interface, which includes object properties, events, and runtime states (see page 2, paragraph [0018]). It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the teachings of Bates and Dandoy for the advantage of gaining a more efficient debugging system that does not require the source code of the application being debugged to be modified and saving programmers and developers valuable time.

As to claim 9, Dandoy teaches one enumeration value associated with an indication that the type or member should not be displayed to the developer (see page 3, paragraph [0025], the debug agent can determine the current state of the selected window and change its properties such that the window is hidden).

As to claim 10, Dandoy teaches one enumeration value associated with an indication that if a type is hierarchical, it should be expanded by default (see page 5, paragraph [0046]: at any point during debugging, a hierarchy of objects within the interface can be determined and displayed; the hierarchy can be displayed automatically).

As to claim 11, Dandoy teaches one enumeration value associated with an indication that a type should not be expanded by default (see page 3, paragraph [0024], debugging requests may include a request to monitor events associated with an object... or request to hide or show an object).

As to claim 12, Dandoy teaches one enumeration value associated with an indication that a target element itself should not be shown, but should instead be automatically expanded to have its member(s) displayed (see page 5, paragraph [0046], at any point during debugging, a hierarchy of objects within the interface can be determined and displayed; the hierarchy can be displayed automatically).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheneca P. Smith whose telephone number is (571) 270-1651. The examiner can normally be reached on Monday-Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xiao Wu can be reached on (571) 272-7761. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C.S.
4/13/2007

XIAO WU
SUPERVISORY PATENT EXAMINER